

### Abstract

5           A method and circuitry for ensuring proper connections of a multi-wired cable  
bridging two electrical components in a programmable logic controller (PLC) system.  
The method involves: generating a pre-specified voltage level when the cable is properly  
connected, testing for the existence of this pre-specified voltage level, and generating an  
error signal if the pre-specified voltage level is not detected. The error signal generated  
10 by a component causes the component to electronically switch off its data connection via  
the multi-wired cable with the other component, and may cause the component to reset  
itself.

10

00699392.103100